DOCUMENT RESUME

ED 108 303 EA 007 219

AUTHOR	Heathers, Glen
TITLE	Planned Educational Change in Search of a Research Tradition.
INSTITUTION	Research for Better Schools, Inc., Philadelphia, Pa.
REPORT NO	JR-105
PUB DATE	May 74
NOTE	18p.; Reprint from the Bulletin of the School of Education, Indiana University; Not available in hard copy due to marginal reproducibility of original document
AVAILABLE FROM	Research for Better Schools, Inc., 1700 Market Street, Philadelphia, Pennsylvania 19103 ($1.25)
EDRS PRICE	MF-$0.76 PLUS POSTAGE HC Not Available from EDRS
DESCRIPTORS	Bibliographies; Change Strategies; *Educational Change; Educational Improvement; *Educational Innovation; Educational Objectives; *Educational Planning; *Educational Research; Educational Strategies; *Research Needs; Research Problems

ABSTRACT

Educational research is concerned with providing bases for improving education and so needs to study cause-effect relations in the educational process. Despite two decades of ferment and innovation, the instruction of most students has been affected little, if at all. Local change programs in education tend to be those that make the most apparent change with the least actual change. Planned educational change should begin with decisions about the aims of education. Once goals have been set, planning instruction is a matter of employing instructional resources to enable students to achieve the selected goals. Very little research attention has been paid to the implementation of change programs. Future research on educational change should focus on changes that are consumer-referenced rather than product-referenced, emphasize how local education agencies can learn to plan and conduct significant change programs, focus on the needs and aims of local education agencies, emphasize the process of implementation in studies of local change programs, draw on principles and research from outside education only when they are clearly applicable, and stress outcomes that are fundamental to the educational process. (Author/JG)

****
* Documents acquired by ERIC include many informal unpublished *
* materials not available from other sources. ERIC makes every effort *
* to obtain the best copy available. nevertheless, items of marginal *
* reproducibility are often encountered and this affects the quality *
* of the microfiche and hardcopy reproductions ERIC makes available *
* via the ERIC Document Reproduction Service (EDRS). EDRS is not *
* responsible for the quality of the original document. Reproductions *
* supplied by EDRS are the best that can be made from the original. *
****

ED108303

U S DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

BEST COPY AVAILABLE

PLANNED EDUCATIONAL CHANGE
IN SEARCH OF
A RESEARCH TRADITION

by
Glen Heathers

Publication No. JR-105

Reprint from the Bulletin of the School of Education
Indiana University

May, 1974

BEST COPY AVAILABLE

EA 007 219

#1.25

RESEARCH FOR BETTER SCHOOLS, Inc.
1700 MARKET STREET
PHILADELPHIA, PENNSYLVANIA 19103

PLANNED EDUCATIONAL CHANGE
IN SEARCH OF
A RESEARCH TRADITION

glen heathers

THERE IS a product-centered orientation in the general title of Diffusion and Adoption of Educational Innovation which implies that improvements in the schools are to be seen as the result of adopting innovations. I prefer a consumer-centered approach to the process of improving schools. For this reason, I use the term "planned educational change" rather than "the diffusion and adoption of innovation." Such planned change may or may not involve the adoption of innovations. In either case, it starts with the identification of needs for improvement in the local educational agency, then seeks a solution that meets those needs.

I assume that our primary concern is with changes that impact directly on what and how children are taught, and thus what they learn. Changes in curricula, in organization for instruction, and in in-service teacher education or supervision, illustrate types of change programs that influence instruction directly. Other change programs can improve the "support systems" of the instructional program. Such programs can be illustrated by a new administrative structure for the school system, or a new method of budgeting school operations. This sort of change program will be of secondary concern in this paper.

What does it mean to be "in search of a research tradition?" I take it to mean efforts to develop a body of established cause-effect principles giving bases for engineering solutions to problems concerned with designing and conducting educational change programs.

It is the chief function of research to test theory. Theory is made up of statements about the relationships between or among variables, that is, aspects of a situation that can vary in terms of presence-absence or degree. The researcher distinguishes independent and dependent variables. The former type of variable can be manipulated to determine the effects of its variation on the latter, which is assumed to depend on or be influenced by it. In common language, independent variables are causal variables while dependent variables refer to effects or outcomes.

Tested theory gives dependable cause-effect knowledge enabling one to explain or predict phenomena. Technologies (including education) use knowledge of cause-effect relationships to create desired outcomes. They achieve such outcomes by manipulating causal variables to achieve the effects being sought. Thus learning theory is applied in education by manipulating such variables as practice or reward to influence the student's learning.

Pure research (that is, research conducted with no concern for application) is what interests many researchers. But educational research, by definition, is concerned with providing bases for improving education and so needs to be concerned with the study of cause-effect relations in the educational process.

Ennis recently stated this point in relation to the support of educational research. He wrote,

> Causal generalizations play a crucial role in educational decision making. The prospect of discovering the relevant ones, I believe, motivates much

Glen Heathers is Resident Scholar at Research for Better Schools (RBS) in Philadelphia, where he directs a project that is developing training materials for leadership in local educational change and serves as consultant to RBS projects on development, diffusion, and research. He is also adjunct professor of education at the University of Pittsburgh. Dr. Heathers has taught psychology at a number of colleges and universities, including New York University where he directed a major research study on elementary school organization, and directed an experimental program for preparing teachers to individualize instruction and use inquiry methods. Prof. Heathers' publications have been on child development, school organization, educational reform strategies, and the anlysis of innovations in education. He holds two degrees from the University of Washington in Seattle, and the Ph.D. degree in psychology from Yale University.

> of the support that educational researchers receive, and our failure to produce correct and relevant ones motivates much of the criticism currently leveled at educational research. (3:5)

Hilgard clarified the relationship between pure and applied research by listing six steps on the route from pure-science research to established educational practices. Under pure research he listed these three steps:

1. research on learning with no regard to its educational relevance (e.g., research using rats as subjects);
2. the same, but with human subjects and with content nearer to school learning; and
3. the same, but the subjects are school-age children and the materials are school-related.

Under technological research and development, Hilgard lists these three steps:

4. research in special laboratory classrooms;
5. tryouts in a normal classroom with typical teachers; and

6. employing developmental steps related to the advocacy and adoption of instructional/materials or procedures. (10)

Directions of Educational Change

Since the fifties, educational reform has been very much in the air, though not always on the ground. Sputnik gave impetus to curriculum reform. The civil rights revolution has challenged traditional ways of educating ethnic and cultural minorities. Developments in machine technologies have been changing at least the hard core of education. There has been developing a new humanism that has created both new demands and new forces for change. Signaling this humanism has been a climate of revolt in which students, parents, and teachers have joined.

Elam, in 1970, listed ten major events in education during the decade of the 1960's. Here is his list:*

1. Teacher militancy and the collective negotiations movement
2. The emergence of the Federal Government as a full partner in public education
3. Student revolts (60% of high schools had sit-ins, boycotts, etc. in 1968-69)
4. A wall separating the government from church schools
5. Technology promising to provide important educational media
6. The Commission of the States and National Assessment of Education
7. The stretching out of formal education into pre-school, junior college, and the 12-month year
8. The slowing of desegregation; urban education and decentralization become issues
9. Sweeping curriculum reform
10. The humanistic criticism of education - Goodman, Friedenberg, Kozol, etc. (2:297-298)

*Reprinted with permission from "Major Educational Events of the Year and Decade" by Stanley J. Elam in *Phi Delta Kappan*, February, 1970.

Expressing or paralleling the forces for change that Elam lists were the development and tryout during the late fifties and the sixties of a great array of educational innovations. The following list of eight types of innovations characterizes, but fails to cover, the entire range of innovations brought forward during the past two decades.

1. New curricula developed with leadership from scientists and scholars
2. New plans for organizing schools - nongrading, team teaching, Individually Prescribed Instruction, and open classroom, etc.
3. Uses of technological devices - audiotapes, videotapes, computers, etc.
4. Instructional programs for special groups - Head Start, Follow Through, etc.
5. New teacher education approaches - microteaching, interaction analysis, inner-city teacher education, etc.
6. "Affective education" designed to teach positive self-concepts, interpersonal skills, etc.
7. Decentralized control of big-city schools
8. Alternative schools, voucher plans, etc.

Shortcomings of local change efforts

Despite two decades of ferment and innovation in education, the instruction offered the great majority of the nation's students has been affected little, if at all. Many innovative programs have been superficial, mere supplements to the basic program which remains essentially unchanged. Many programs introduce certain changes at one level of schooling that are abandoned at higher levels, permitting whatever effects are achieved to wash out. Many change programs obey a gloomy law of local educational reform that reads: *Local change programs in education tend to be those programs that make the most*

apparent change with the least actual change. The reasons for this seem clear. To "sell" a program to local personnel, its sponsors need it to *appear* to introduce important changes in instruction. However, if the program is to be implemented readily, it must not require major changes in instructional practices since they would require lengthy and costly staff retraining.

Many, if not most, innovations have been introduced in school systems on a limited pilot basis and very often with outside funding from the government or private foundations. Usually the changes fail to spread beyond the pilot program and a high percentage of pilot programs are abandoned when external funding stops.

One important reason that school districts abandon, or fail to spread, innovative programs is that few such programs have produced major improvements in learning outcomes despite favorable attitudes toward them by students, teachers, and parents.

Why these shortcomings in local change progarms? A common fault has been a poor choice of change program. The analysis of high-priority local needs has been inadequate, or an ineffective way of meeting important needs has been chosen. Another cause for ineffective programs is a lack of a sound plan for implementing the changes. Most innovative programs require changes in numerous components of instruction. For example, introducing a new curriculum requires changes in teacher education and supervision and may require also changes in staff assignments, in scheduling, or in the articulation of instruction at different levels. An especially common failing in instructional change programs is inadequate training to teach in the new ways required.

A critical fault in many change programs has been a failure to involve key participants in choosing and planning the program. For example, if teachers are not

represented on the policy and planning group for the change program, valuable teacher contributions to the program design are left out and teachers' motivation to make the program succeed is apt to suffer.

These shortcomings in change programs challenge researchers to contribute an understanding of change processes in order to improve the choice, design, and implementation of local innovative programs.

Needs for research on the aims of education

Planned educational change should begin with decisions about the aims that education should serve. This is in the domain of educational philosophy inasmuch as it concerns the values (or the individual and societal purposes) that education should serve. Equally it is in the domain of educational research, where the questions to be answered involve determining the demands that will be placed on individuals in the decades ahead and determining the learning goals that will foster capabilities for meeting those demands. Table 1, *Topics for the Analysis of Means-Ends Relations in Education*, is a listing of four categories of factors that need to be taken into account in educational planning. The ultimate ends that education should serve offer the bases for deciding what the goals of education should be. Once the goals have been set, planning instruction is a matter of employing instructional resources to enable individual students (the clients in education) to achieve the goals selected as appropriate.

Much thought is going into the task of predicting the future and determining what sort of education will be appropriate for living in the world of 2000 A.D. A memorandum from the Educational Policy Research Center of the Stanford Research Institute proposes that a basic research task is one of "developing what might be termed a new 'moral science,' supplementing the physical, biological, and social sciences." The memorandum recommends that, to

Table 1. Topics for the Analysis of Means-Ends Relations in Education

Clients	Means	Proximate Ends	Ultimate Ends
INDIVIDUAL STUDENTS	INSTRUCTIONAL RESOURCES	EDUCATIONAL GOALS	VALUES: SOCIETAL AND INDIVIDUAL
Positions and Roles	Learning Materials	Content (by area):	Societal Norms
Capacities	Assessment Tests and Procedures: Achievement, Affective Goals, Learner Characteristics	Terms (Variables) Classification Principles Facts Applications	Role and Status Requirements
Interests Motives Attitudes Values Self-concept	Equipment	Process:	Conformity to Rules and Expectations
Knowledge	Learning Spaces	Tool Skills (Language, Math, Instruments) Self-direction Self-evaluation Inquiry Mastery Motives Psycho-Motor Attributes	Autonomy
Competencies	Staff		Individuality
Qualities	Community: Places Things Agencies Activities People		Self-Knowledge
Learning Styles			Openness to New Learnings
			Risk Taking
	Students	Personal-Social	Empathy
		Attitudes Interests Values Self-Concept Interpersonal Skills	Dependence-Independence
			Spontaneity
			Etc.

"establish a sense of national purpose," three concepts will help education make its best contribution: education for coping with a troubled and uncertain future; education to meet the educational demands of various groups; and education toward a new national image, suggesting a new relationship between education and law enforcement.

Willis Harmon, director of Stanford's Educational Policy Research Center, in a paper titled "Context for Education in the Seventies," referred to three forces pushing toward a drastic shift in cultural values: the existence of a "world macroproblem" involving overpopulation, unemployment of the unskilled, traffic congestion, and nuclear threat; the great refusal of youth to go along with the values of the past; and the questioning of science as to whether its value-free stance can be maintained. (6)

The societal demands on education differ, of course, depending upon the categories of people making those demands. This is suggested in Table 2 on *Societal Values and Educational Goals*. The table is not based on research but on speculation. However, it offers a starting-point for study of the different expectations of education by different population sub-groups.

Applying findings of research in other areas to education

Educators with an interest in understanding educational change have turned to the research literature on change in other areas with the hope of finding principles or models of change that could be applied to education. Three lines of research in particular have been turned to with this purpose in mind. One is rural sociology, particularly studies of agricultural extension agents' work in promoting the use of innovations in agriculture. Guba and others have pointed out that the research findings about the diffusion of agricultural products or procedures have a very limited applicability to education. In particular, Guba notes that in agriculture innovations

Table 2. Societal Values and Educational Goals

CODE: e - minor emphasis
E - major emphasis

General societal expectations of education	Curricular areas	Level of schooling				Type of learning goal			
		Elementary	Secondary	Junior College	College	Cognitive Content	Cognitive Process	Affective Personal	Affective Social
1. Basic literacy	Reading, Language Arts	E	e				E		
2. Minimal uses of numbers	Arithmetic (four operations)	E	e				E		
3. Physical health	P.E., Health	E	E			E	E		
4. Citizenship education	Social Studies	E	E			E		e	e
5. Vocational education	Commercial or Technical programs		E	E		E	E		
6. Special education for retarded & handicapped	Reading, Language Arts, Arithmetic	E	E				E		
7. Professional education (for select few)	Major plus practicums, internships		e		E	E	E		

Expectations of education by intellectual sub-society																			
8. Cultural development (especially for elites)	Humanities, Arts, Sciences	e		E				E				E		e				E	e
9. "Equalizing educational opportunity"	Mainly basic skills	E		E		e		e				e		E				e	
10. Human relations education	Social Studies, Guidance	E		E														E	E
Expectations of education by the sub-sub-society of humanistic educators																			
11. Competencies in self-directed learning	General	E		E								E							
12. Competencies in problem solving & creativity	"	E		E								E							
13. Love of life-long learning	"	E		E				E				E						E	
14. Positive self-concept	"	E		E														E	
15. Egalitarian values	Social Studies, lit., philosophy	E		E				E										E	E

19

are accepted or rejected by an individual entrepreneur, whereas in education decisions involve many persons. In agriculture the incentive for adopting an innovation is economic, whereas in education it is apt to be social. (5:120-121)

Two other lines of research have more evident applicability to the study of change in education. One is the sociology of organizations, notably bureaucratic systems. Studies of stability and change in organizations, of formal and informal channels of communication, etc. have been especially influential in the examination of change in education. For example, see Robert G. Owens, *Organizational Behavior in Schools*. (13)

Social psychology, with its work on group process or group dynamics, also has had major influence on studies of change in education. In particular, this line of research has been applied to the training of personnel for leadership in change. See, for example, Bennis, Benne and Chin. (1)

The current status of research on change in education

While a considerable amount of research has been conducted on educational change, most of it is of poor quality. A fundamental weakness of many studies has been a product-centered bias. Mort's famous studies of the adoption of innovations rest on the tacit assumption that every school system should adopt the innovation in question. The absurdity of this assumption is made evident when one considers the fact that there is a multiplicity of innovations each year involving almost any aspect of a school system or its program.

The product-centered bias is illustrated also in a study by Orlosky and Smith on educational change in the United States during the past 75 years. These authors list 63 categories of change and examine them in terms of adoption and maintenance in schools. However,

adoption is a poor criterion of the suitability or success of a change program. What is lacking is evidence that the change programs studied were based on identified local needs, that the changes introduced were suitable for meeting the needs addressed, that the changes were successfully implemented, and that favorable results were obtained. (12)

Very little research attention has been paid to the implementation of change programs. It is clear that, unless a change program is fully implemented, its potential benefits cannot be determined. Two studies can be cited to indicate the importance of research on change-program implementation. The present author found that a semi-departmentalized elementary program when field tested was implemented only in its structural aspects, not in the conduct of instruction within the program. (9)

In a study of an innovative program in an inner-city elementary school, Gross and his colleagues (4) found that the initial enthusiasm of teachers in the program dissipated when faulty leadership failed to offer critical assistance in implementing the program.

Probably the most vigorous and promising area of research on educational change concerns the training of educational "change agents." Ronald Havelock of the Center for Research on Utilization of Scientific Knowledge at the University of Michigan is a leader in this area. He and Mary Havelock within the past year completed a survey on Educational Innovation in the United States. He has written a volume entitled *The Change Agent's Guide to Innovation in Education*. (7) Together they have published another book, *Training for Change Agents*. (8) Each of these works includes bibliographical references on research in educational change. Another major survey on training for leadership in educational change has been reported by Colin Mick and others. (11)

since William Paisley of Stanford was the chief contributor to the report, it is widely known as the Paisley Report.

A number of other major research and development programs on training for leadership in educational change are under way. Particularly important contributions to both research and practice in the training field are coming from the following organizations, to name just a few such centers: The Northwest Regional Educational Laboratory in Portland, Oregon; The Center for the Advanced Study of Educational Administration at the University of Oregon; The Far West Laboratory for Educational Research and Development in Berkeley, California; and the Administering for Change Program at Research for Better Schools in Philadelphia.

Recommendations for research on planned educational change

A number of general recommendations, based largely on the preceding discussion, can be made to guide future research on educational change.

1. Focus research dealing with local educational reform on changes that are consumer-referenced rather than product-referenced. This means basing the study of local change on local needs analysis and the planning and conduct of change programs intended to meet those needs.

2. Place emphasis on research that will show how local educational agencies can develop staff competencies and organizational capabilities for planning and conducting significant change programs.

3. Base change research on problems that involve urgent needs of local educational agencies. Include research on the aims of education.

4. In studies of local change programs, place emphasis on the process of implementing the programs.

5. Build theories of educational change involving

cause-effect variables in education, drawing upon variables and principles from outside education only when they are clearly applicable.

6. In measuring outcomes of educational change programs, stress outcomes that are fundamental to the educational process (such as student learning in the cognitive and affective areas) rather than merely the adoption of innovations.

REFERENCES

1. Bennis, Warren G.; Benne, Kenneth D.; and Chin, Robert, (eds.), *The Planning of Change*, 2nd ed., Holt, Rinehart and Winston, New York, 1969.

2. Elam, Stanley M., "Major Education Events of the Year and the Decade," *Phi Delta Kappan*, Vol. 51, 1970, pp. 297-298.

3. Ennis, Robert H., "On Causality," *Educational Researcher*, Vol. 2, 1973, pp. 4-11.

4. Gross, Neal, and others, *An Attempt to Implement a Major Educational Innovation: A Sociological Inquiry*, Report No. 5, Harvard University Center for Research and Development on Educational Differences, Cambridge, Mass., 1968.

5. Guba, Egon, "Related Research and Development," a section in a research proposal, Ohio State University, Columbus, 1965, mimeographed. Cited in *Perspectives on Educational Change*, Richard I. Miller (ed.), Appleton-Century-Crofts, New York, 1967.

6. Harmon, Willis, "Context for Education in the Seventies," *Needs of Elementary and Secondary Education for the Seventies: A Compendium of Policy Papers*, Committee on Education and Labor, House of Representatives, 91st Congress, General Subcommittee on Education, March, 1970

7. Havelock, Ronald, *The Change Agent's Guide to Innovation in Education*, Educational Technology Publications, Inc., Englewood Cliffs, N. J., 1973.

8. Havelock, Ronald, and Havelock, Mary, *Training for Change Agents*, CRUSK, Institute for Social Research, The University of Michigan, Ann Arbor, 1973.

9. Heathers, Glen, *Organizing Schools Through the Dual Progress Plan*, Interstate, Danville, Ill. 1967.

10. Hilgard, Ernest R., "A Perspective on the Relationship Between Learning Theory and Educational Practice," Chapter 17 in *Theories of Learning and Instruction*, Part I of 63rd Yearbook of the National Society for the Study of Education, University of Chicago Press, Chicago, 1964.

11. Mick, Colin, and others, *Development of Training Resources for Educational Extension Services Personnel*, Vol. 1, final report, Institute for Communication and System Development Corporation, Santa Monica, Calif., 1973.

12. Orlosky, Donald, and Smith, B. Othanel, "Educational Change: Its Origins and Characteristics," *Phi Delta Kappan*, Vol. 53, No. 7, March 1972, pp. 412-414.

13. Owens, Robert G., *Organizational Behavior in Schools*, Prentice-Hall, Englewood Cliffs, N.J., 1970.